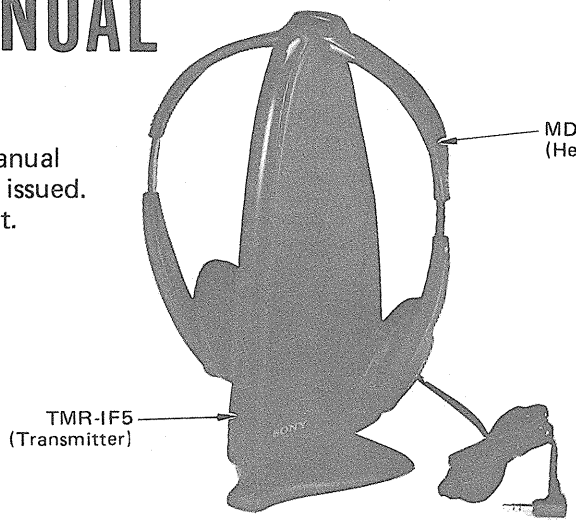
MDR-IF5K
MDR-IF5/TMR-IF5

SERVICE MANUAL

Discard MDR-IF5K Service Manual
(No. 9-953-691-12) priviously issued.
This Service Manual contains it.



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SPECIFICATIONS

General

Infrared wavelength:	850 nm
Modulation:	Frequency modulation
Carrier frequency:	Right 2.8 MHz Left 2.3 MHz
Effective range:	up to 7m (23 ft)
Frequency response:	18 — 22,000 Hz
Distortion:	Less than 1% at 1 kHz

Transmitter TMR-IF5

Power source:	DC 9 V jack accepts: Sony AC-912 AC power adaptor (supplied)
Dimensions:	88 × 220 × 93 mm (3½ × 8¾ × 3¾ in), (w/h/d)
Weight:	250 g (8.8 oz.)

Headphones MDR-IF5

Power source:	Built-in rechargeable battery (GF100)
Weight:	98 g (3.5 oz.)

Supplied accessories

AC power adaptor (1)
Connecting cord (stereo mini jack — stereo phono plugs) (1)
Plug adaptor (stereo mini jack — stereo phone plug) (1)
Screws (M3.1 × 20mm) (2)
Design and specifications subject to change without notice.

Features

- Infrared transmitting system eliminates the headphone cord.
- This headphone system can be used with any audio/video equipment provided with a headphone jack or line out jack.
- The quality of the sound is excellent because it is transmitted with high carrier frequencies.
- The lightweight rechargeable battery built into the headphones allows a compact design and economical operation.
- A trickle charging system keeps headphones ready to use whenever they are rested on the transmitter.
- You can adjust the audio level at your listening position by using the volume controls on the headphones.

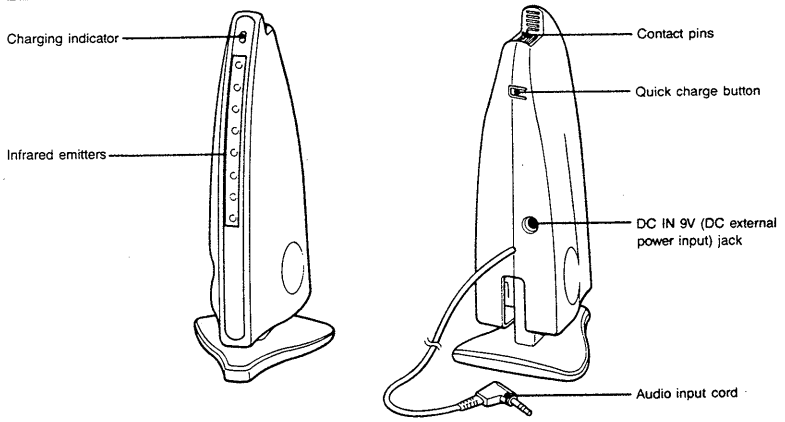
CORDLESS STEREO HEADPHONES

SONY®

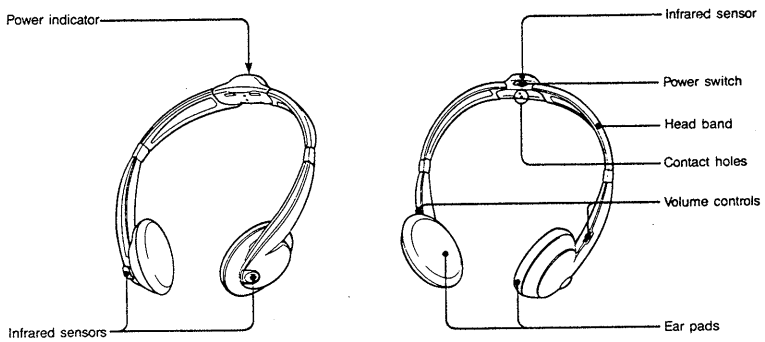
SECTION 1
GENERAL

Parts Identification

Transmitter

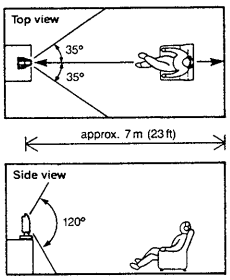


Headphones



Positioning the Transmitter

The diagram below illustrates the approximate effective range of the infrared rays emitted from the transmitter. Position the transmitter so that your listening area is within the effective range.



The infrared rays will not penetrate walls or opaque glass, therefore the headphones must be used in "in sight" area of the transmitter.

SAFETY-RELATED COMPONENT WARNING!!

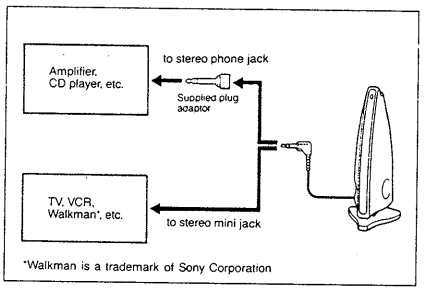
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Connecting to an Audio/Video Equipment

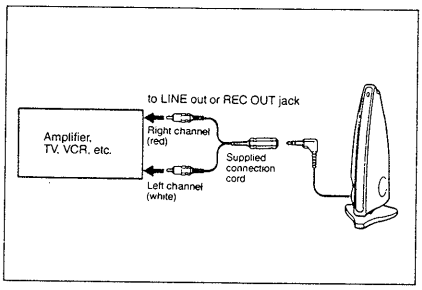
Connecting the Transmitter to the Headphone Jack



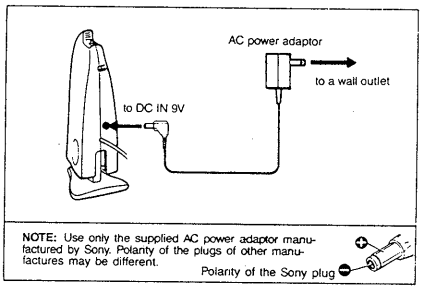
*Walkman is a trademark of Sony Corporation

Connection to an earphone (monaural mini) jack
Use the optional PC-236S plug adaptor.

Connecting the Transmitter to the LINE OUT or REC OUT Jack



Connecting to a Wall Outlet



NOTE: Use only the supplied AC power adaptor manufactured by Sony. Polarity of the plugs of other manufactures may be different.

Charging the Headphones Battery

The headphones are powered by their built-in rechargeable battery. When you use the headphones for the first time or the battery is completely exhausted, proceed to charge the battery quickly (quick charge) in the following way:

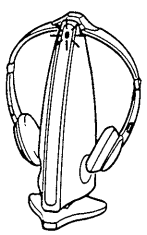
Caution
Do not repeat the quick charge more than two times in succession, or the battery may be impaired.

Note
- Whenever the headphones are rested on the transmitter, the battery is charged continuously and the charging indicator glows green faintly to indicate trickle charging.
- Since little electric current is used for trickle charging, there is no need to worry about overcharging.
- It takes about 50 hours to fully charge the battery by the trickle charging.

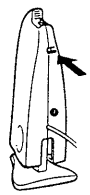
1 Connect the AC power adaptor to the transmitter.

2 Set the power switch on the headphones to OFF/CHG.

3 Rest the headphones on the transmitter so that the contact pins fit into the contact holes on the headphones. The charging indicator glows green faintly.



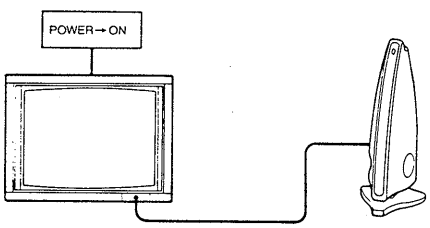
4 Press the quick charge button on the rear of the transmitter. The charging indicator turns red and returns to green after about 3 hours. Now, you can use headphones for about 3 hours.



If you want to fully charge the battery to use the headphones for about 6 hours, repeat the quick charge.

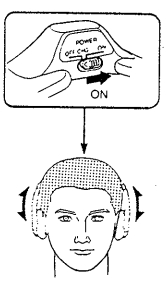
Listening to a Program

1 Turn on the audio/video equipment connected to the transmitter.

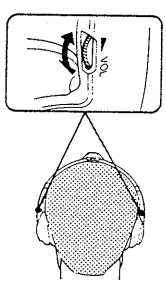


When the audio signal is input, the transmitter turns on automatically and the infrared emitters glow. If the transmitter is connected to the headphone jack, set the volume control of the equipment to the middle position.

2 Turn on the power switch of the headphones and put on the headphones. Adjust the head band, if necessary.



3 Adjust the volume controls so that the audio level of both channels gets equal.



When the no signal is supplied for more than about 3 minutes
The transmitter is turned off automatically.

When the audio signal is interrupted or extremely low sound continues for more than about 3 minutes
The transmitter may be turned off. When the transmitter is connected to the headphone jack, increase the volume of the connected equipment and lower the volume of the headphones.

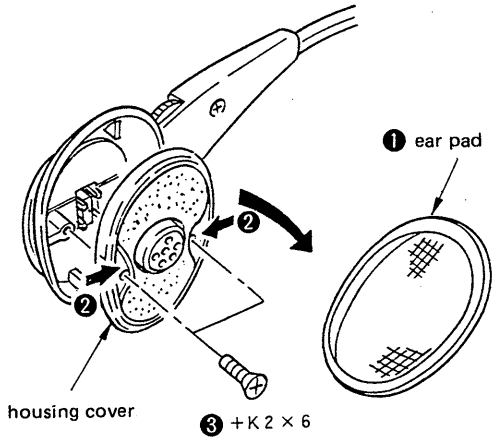
After using the headphones
Set the power switch to OFF/CHG and rest the headphones on the transmitter.

Note
- Be sure to remain in the effective range of the infrared rays while listening (see diagram above).
- Do not cover the infrared sensors with your hands or hair.
- Do not use headphones under the direct sunlight.

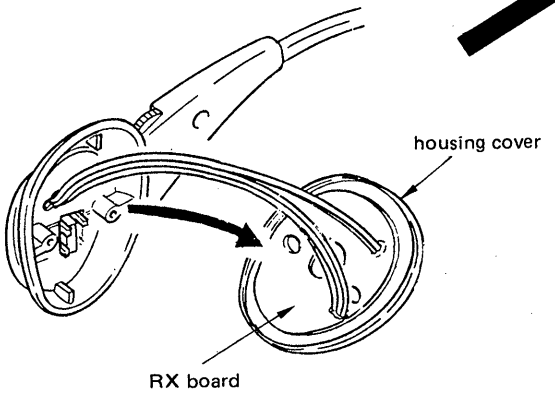
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

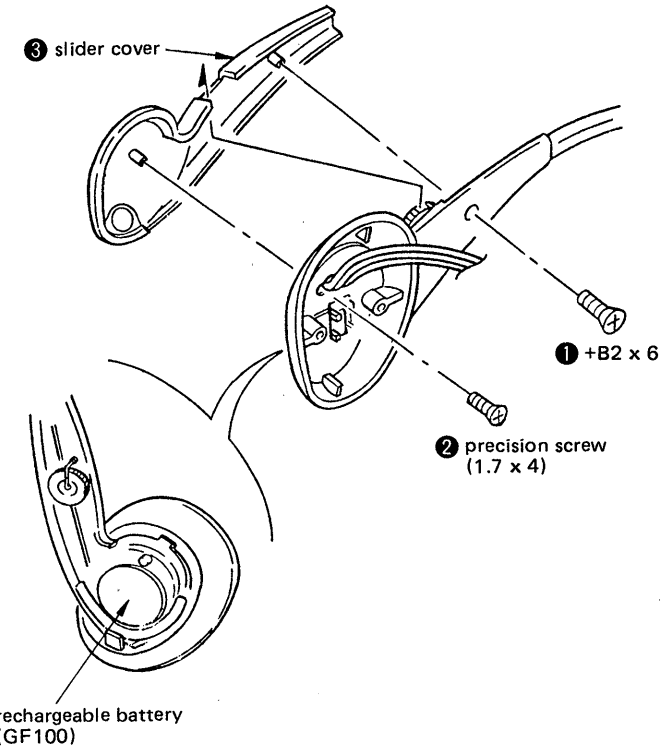
• HEADPHONES SECTION (MDR-IF5)



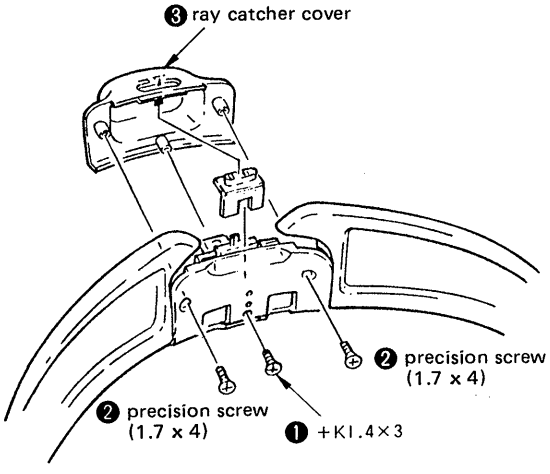
[RX Board]



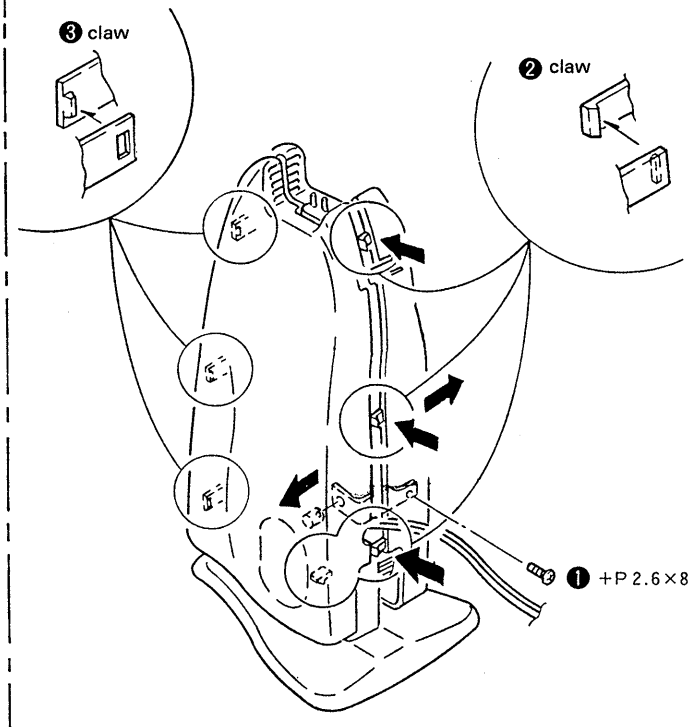
[Rechargeable Battery]



[FE Board]



• TRANSMITTER SECTION (TMR-IF5)

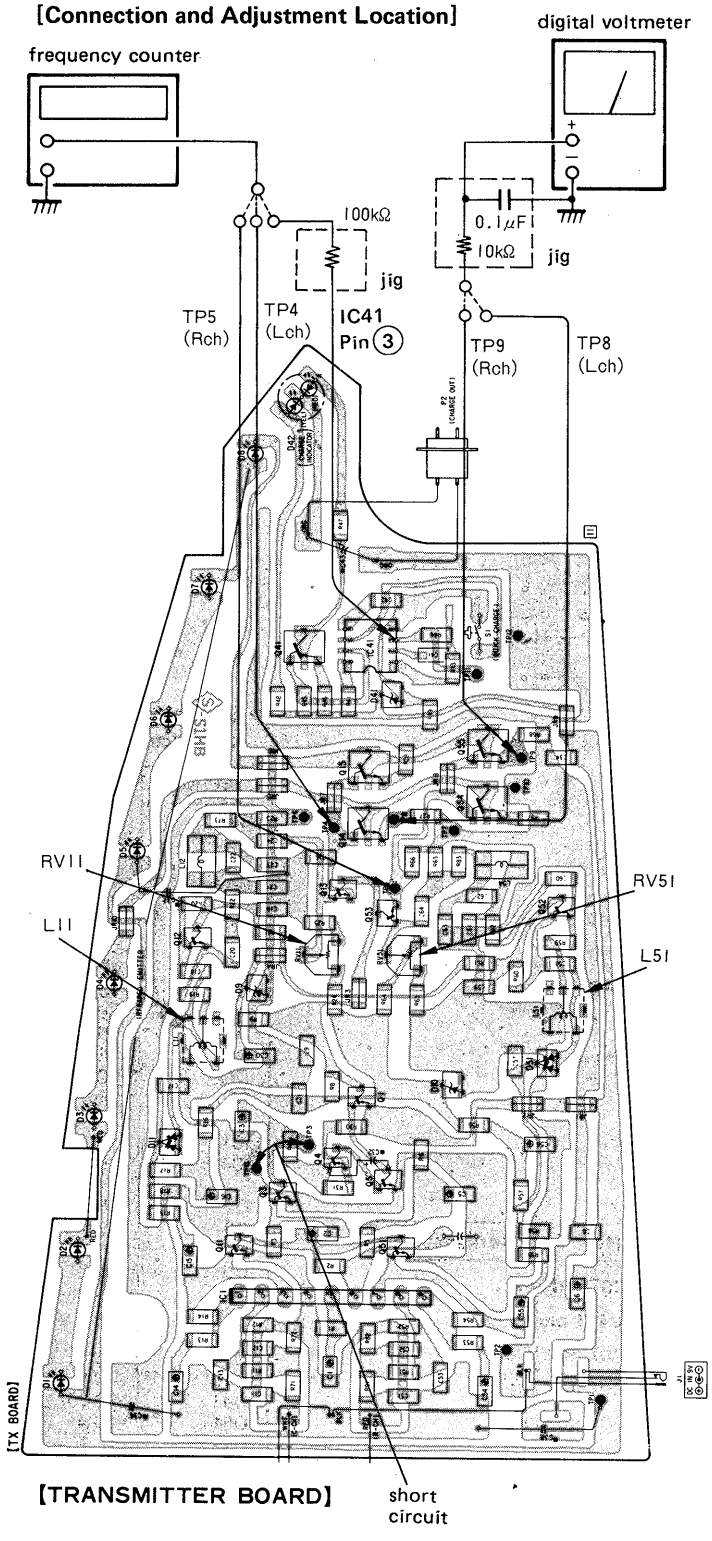


SECTION 3
ELECTRICAL ADJUSTMENTS

1. The adjustments should be performed in the order given.
   (As a general rule the transmitter section (TMR-IF5) adjustments should be completed before performing the headphones section (MDR-IF5) adjustment.)
2. The adjustments and measurements should be performed for both L-ch and R-ch unless otherwise indicated.
3. Supply 9 V dc to the transmitter (TMR-IF5) and 2.5 V dc to the headphones (MDR-IF5) as the power voltage.

TRANSMITTER SECTION

[Connection and Adjustment Location]



[TRANSMITTER BOARD]

short circuit

[Oscillating Frequency Adjustment]

Adjusting Procedure:
No signal state.

1. Short circuit between TP3 and TP13.
2. Connect the frequency counter to TP4 (L ch) and TP5 (R-ch).
3. Adjust with L11 (L-ch) and L51 (R-ch) so that the reading on the frequency counter becomes the specified value.

Specified Value:

L-ch	L11	2.3 ±0.003 MHz
R-ch	L51	2.8 ±0.003 MHz

[Bias Current Adjustment]

Adjusting Procedure:
No signal state.

1. Connect the digital voltmeter to TP8 (L-ch) and TP9 (R-ch).
2. Adjust with RV11 (L-ch) and RV51 (R-ch) so that the reading on the digital voltmeter becomes the specified value.

Specified Value:

L-ch	RV11	300 ±10 mV
R-ch	RV51	300 ±10 mV

3. Release the short-circuit between TP3 and TP13.

[Quick Charge Check]

1. Connect the frequency counter to Pin (3) of IC41.
2. Short circuit P2 (change out pin).
3. Press the charge switch until the charging indicator (LED D52) turns red.
4. Check the reading on the frequency counter becomes the confirming value.

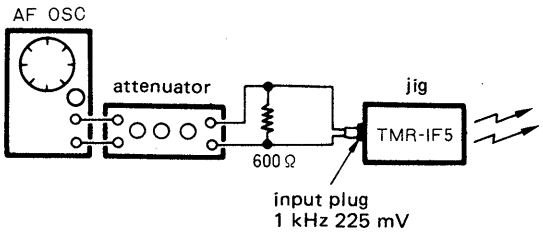
Confirming Value: 380 ±50 Hz

HEADPHONES SECTION

Note:

1. On adjusting the headphones section (MDR-IF5), use the transmitter (TMR-IF15) as a jig.
2. The patterns of the printed circuit boards for L-ch and R-ch are common.
3. L-ch adjustment should be completed before performing R-ch adjustment.

[Preparation]



1. Feed a signal to jig (TMR-IF5) and connect a power supply to DC IN jack.

[Receiving Frequency Adjustment]

Adjusting Procedure:

1. Short circuit between TP2 and TP3.
2. Turn on the POWER switch of the headphones.
3. Adjust with CT11 (L-ch) and CT51 (R-ch) so that the reading on VTVM becomes maximum.

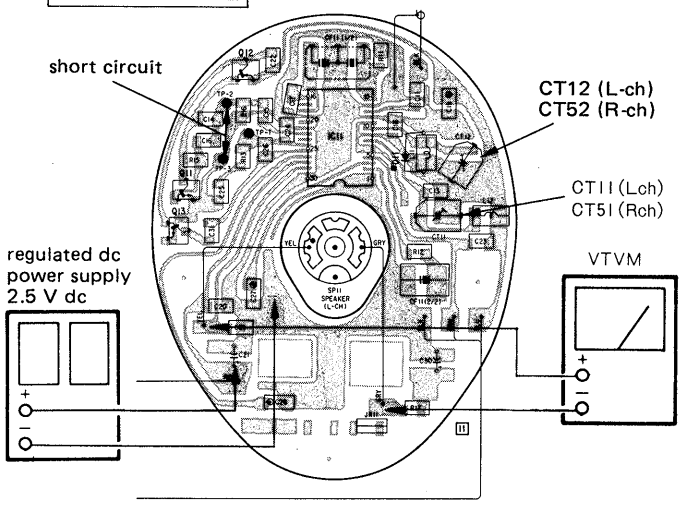
[Gain Adjustment] (Former Type Only)

Adjusting Procedure:

1. Adjust to make the input level of jig (TMR-IF5) as low as possible.
2. Adjust with CT12 (L-ch) and CT52 (R-ch) so that the reading on VTVM becomes maximum.
3. Release the short-circuit between TP2 and TP3.

[Connection and Adjustment Location]

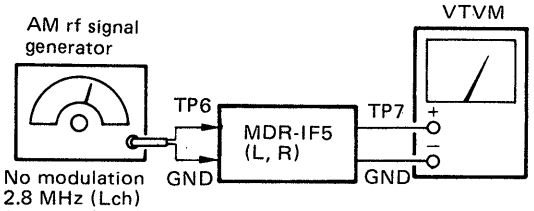
FORMER TYPE



[RX Lch/RX Rch BOARD]

[Filter Character Adjustment] (New Type Only)

Setting:



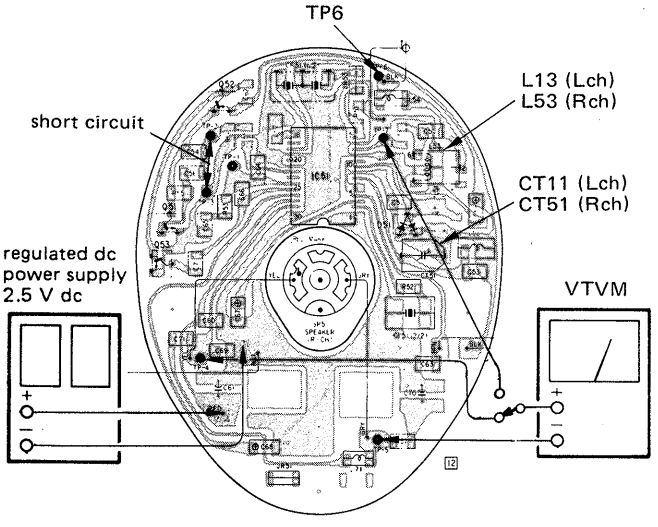
No modulation
2.8 MHz (Lch)
2.3 MHz (Rch)
output level: 100 mV (100 dB)

Adjustment Procedure:

1. Input to TP6 of Lch. (2.8 MHz)
2. Adjust L53 of Rch so that the reading on VTVM becomes minimum.
3. Input to TP6 of Rch. (2.3 MHz)
4. Adjust L13 of Lch so that the reading on VTVM becomes minimum.

[Connection and Adjustment Location]

NEW TYPE

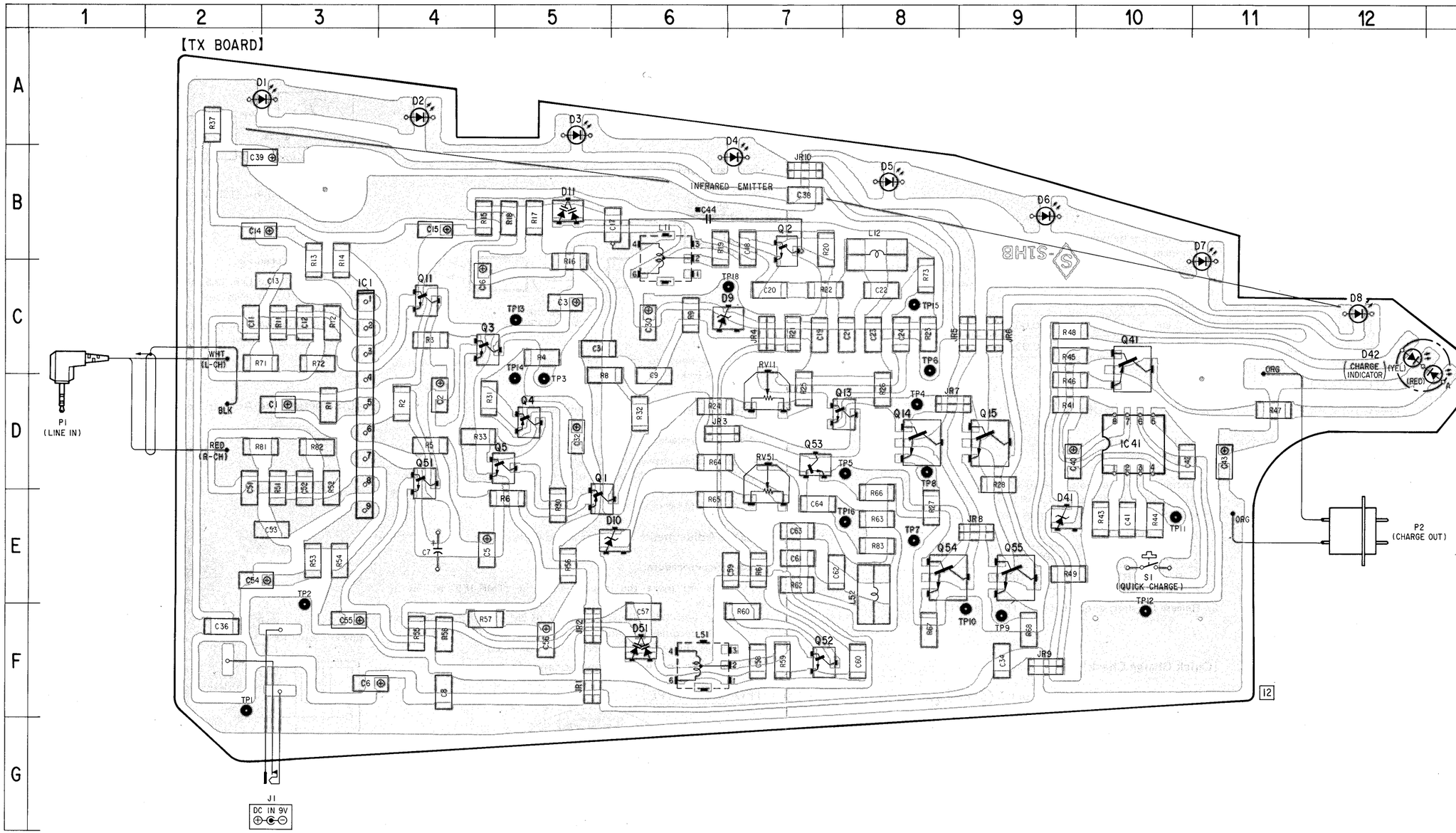


[RX Lch/RX Rch BOARD]

NEW TYPE

NEW TYPE

4-1. NEW TYPE TRANSMITTER SECTION (TMR-IF5) PRINTED WIRING BOARD

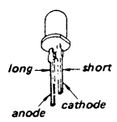


Note:

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.

- **Semiconductor Lead Layouts**

DN304A



VPRY5345X

1. ANODE YEL
2. CATHODE
3. ANODE RED

Destination	New Type Serial No.
US	47097and later
Canadian	A50401 and later
AEP	46297 and later
UK	53401 and later
E	23001 and later
Australian	117501 and later

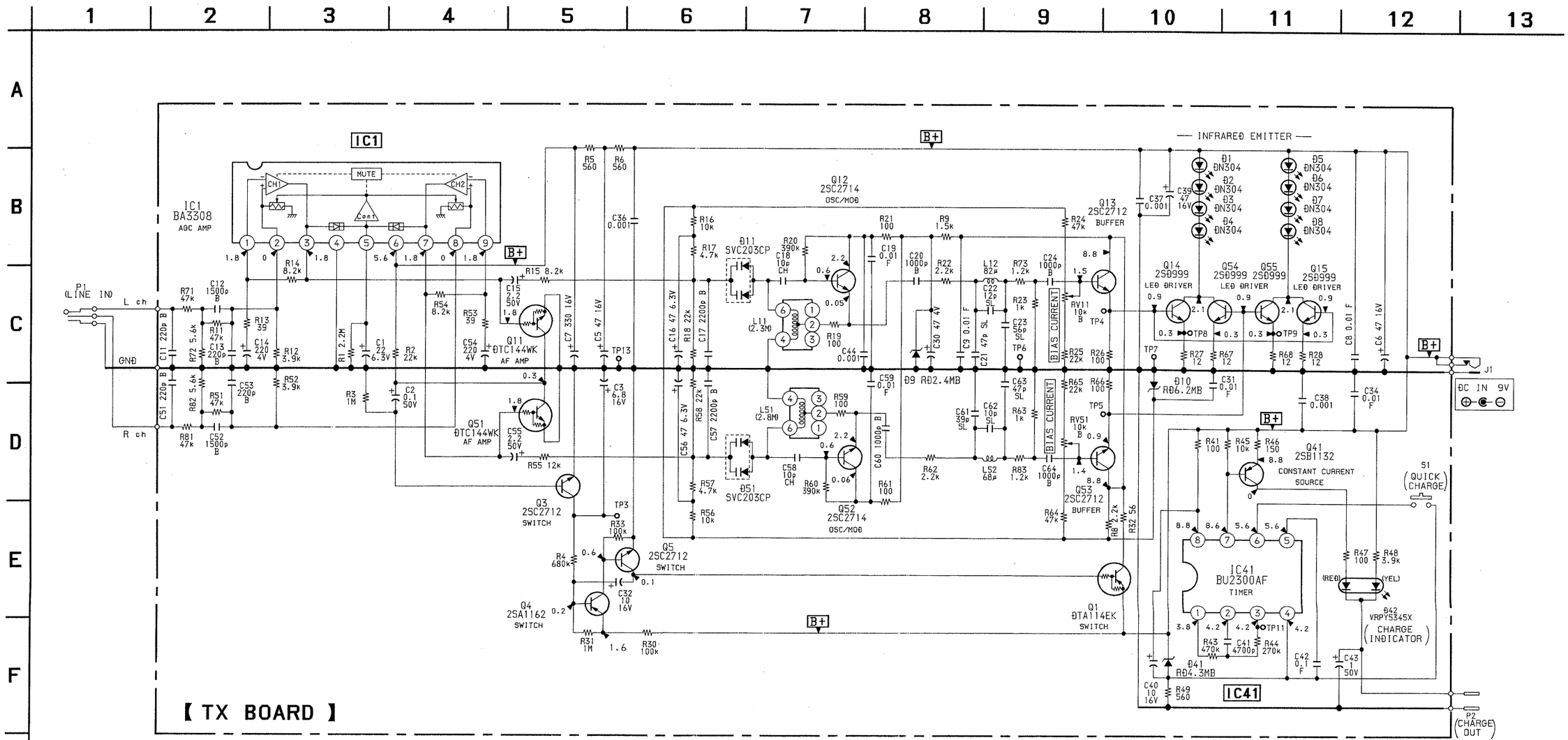
- **Semiconductor Location**

Ref. No.	Location
D1	A-2
D2	A-4
D3	A-5
D4	B-7
D5	B-8
D6	B-9
D7	C-11
D8	C-12
D9	C-6
D10	E-6
D11	B-5
D41	E-9
D42	C-12
D51	F-6
IC1	C-3
IC41	D-10
Q1	E-5
Q3	C-4
Q4	D-5
Q5	D-5
Q11	C-4
Q12	B-7
Q13	D-7
Q14	D-8
Q15	D-9
Q41	C-10
Q51	D-4
Q52	F-7
Q53	D-7
Q54	E-8
Q55	E-9

NEW TYPE

NEW TYPE

4-2. NEW TYPE TRANSMITTER SECTION (TMR-IF5) SCHEMATIC DIAGRAM



Destination	New Type Serial No.
US	47097and later
Canadian	A50401 and later
AEP	46297 and later
UK	53401 and later
E	23001 and later
Australian	117501 and later

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Power voltage is 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.

NEW TYPE

NEW TYPE

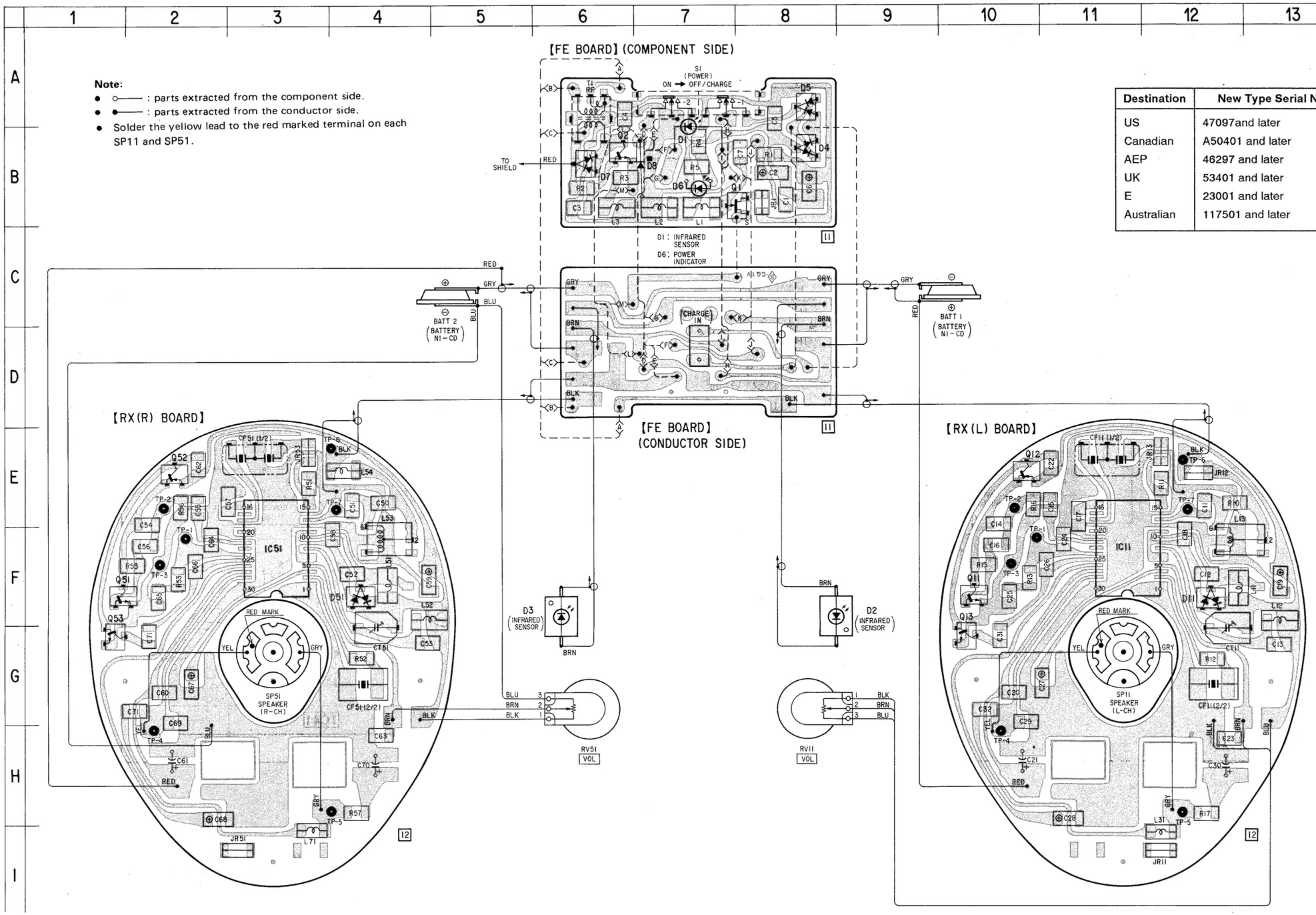
Note:

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- Solder the yellow lead to the red marked terminal on each SP11 and SP51.

Destination	New Type Serial No.
US	47097and later
Canadian	A50401 and later
AEP	46297 and later
UK	53401 and later
E	23001 and later
Australian	117501 and later

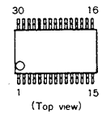
- **Semiconductor Location**

Ref. No.	Location
D1	B-7
D2	F-9
D3	F-6
D4	B-8
D5	A-8
D6	B-7
D7	B-6
D8	B-7
D11	F-12
D51	F-4
IC11	F-11
IC51	F-3
Q1	B-8
Q2	B-6
Q11	F-10
Q12	E-10
Q13	G-10
Q51	F-1
Q52	E-2
Q53	G-1

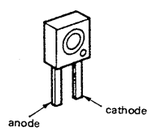


- **Semiconductor Lead Layouts**

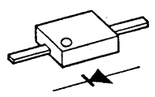
CXA1280N



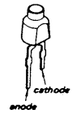
PP506-1



PP601-1

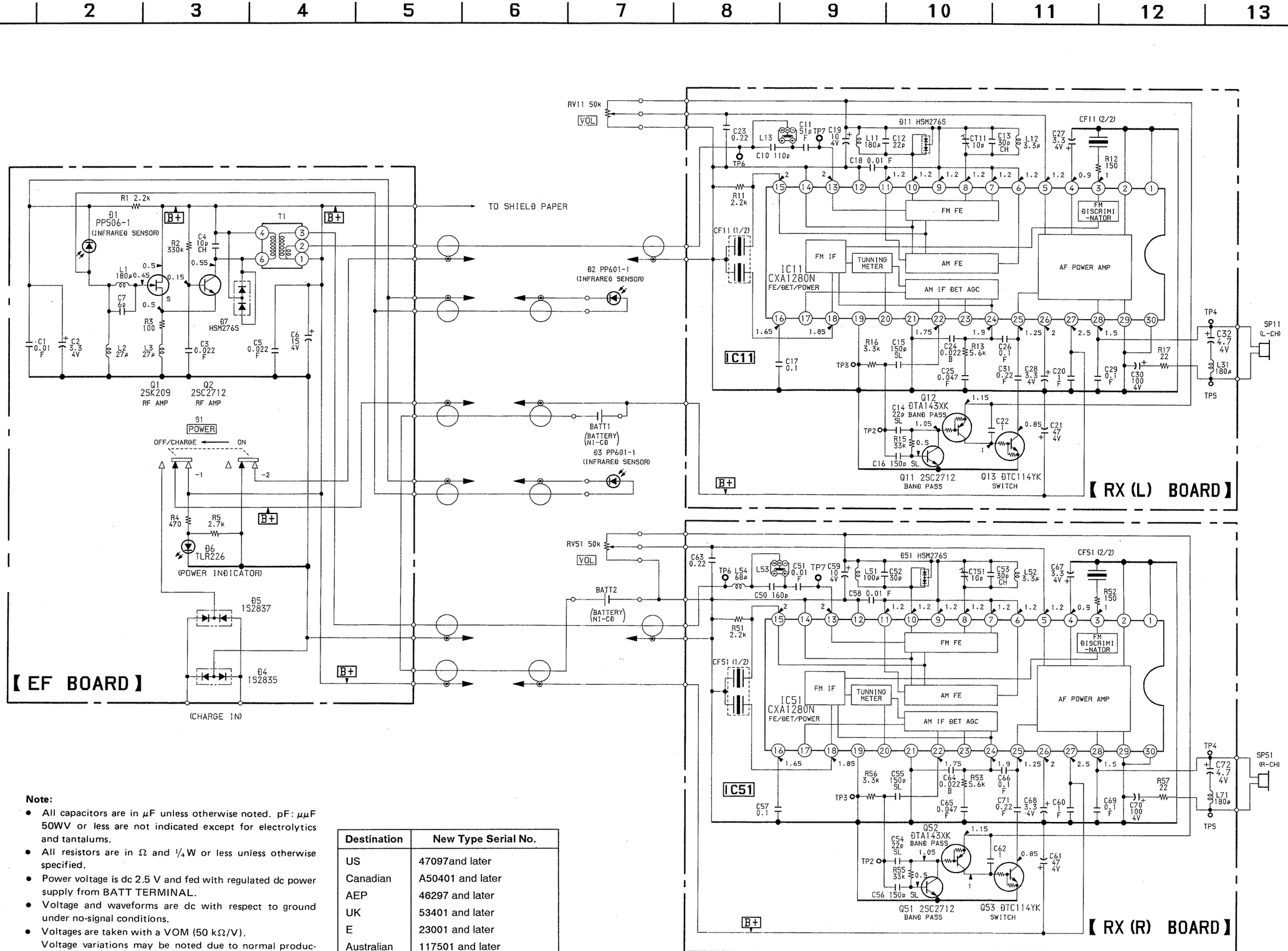


TLR226



NEW TYPE

NEW TYPE



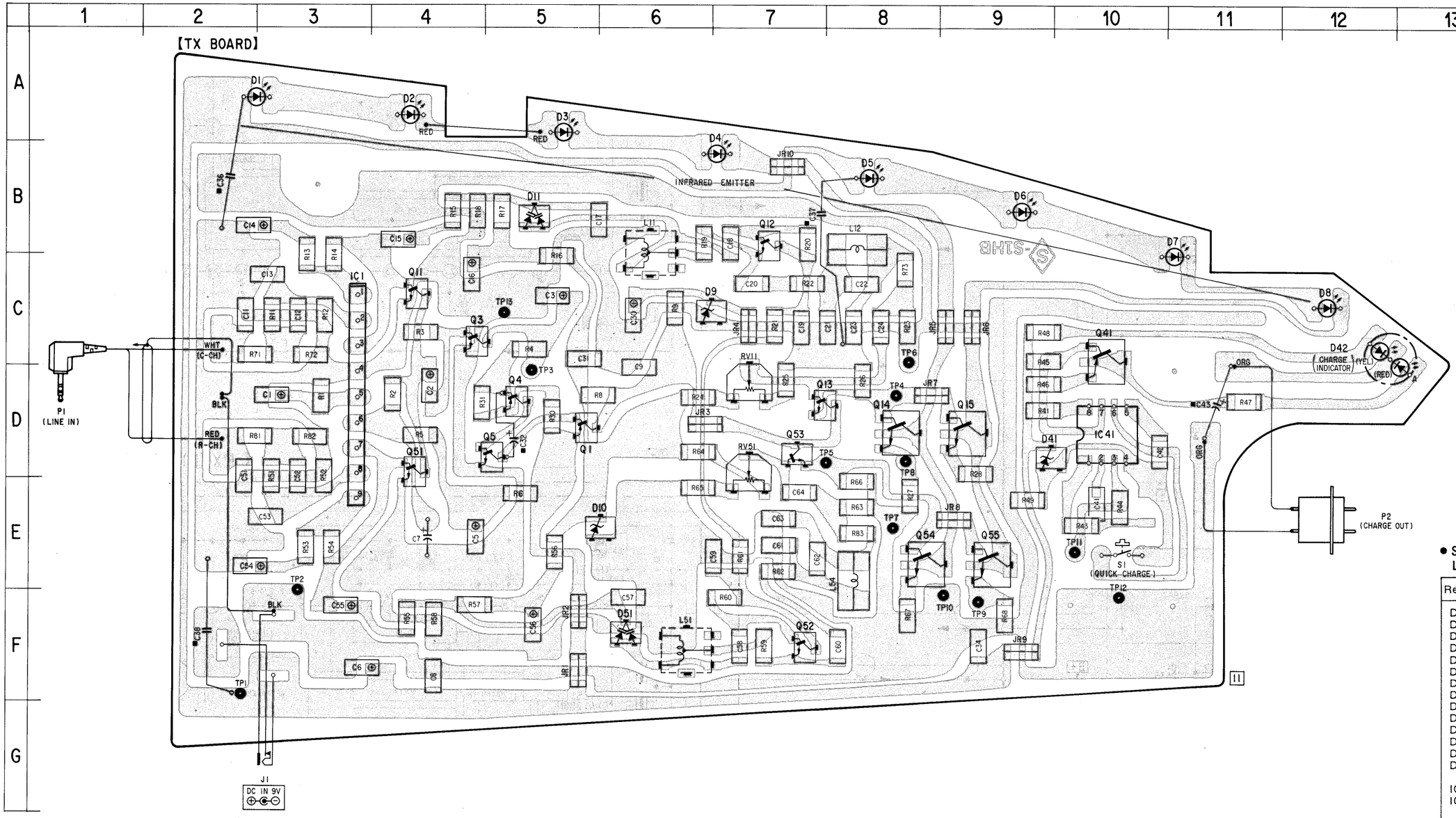
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Power voltage is dc 2.5 V and fed with regulated dc power supply from BATT TERMINAL.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.

Destination	New Type Serial No.
US	47097and later
Canadian	A50401 and later
AEP	46297 and later
UK	53401 and later
E	23001 and later
Australian	117501 and later

FORMER TYPE

4-5. FORMER TYPE TRANSMITTER SECTION (TMR-IF5) PRINTED WIRING BOARD

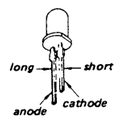


Note:

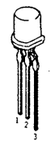
- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.

● **Semiconductor Lead Layouts**

DN304A



VPRY5345X



1. ANODE YEL
2. CATHODE
3. ANODE RED

Destination	Former Type Serial No.
US	Up to 47096
Canadian	Up to A50400
AEP	Up to 46296
E	Up to 23000

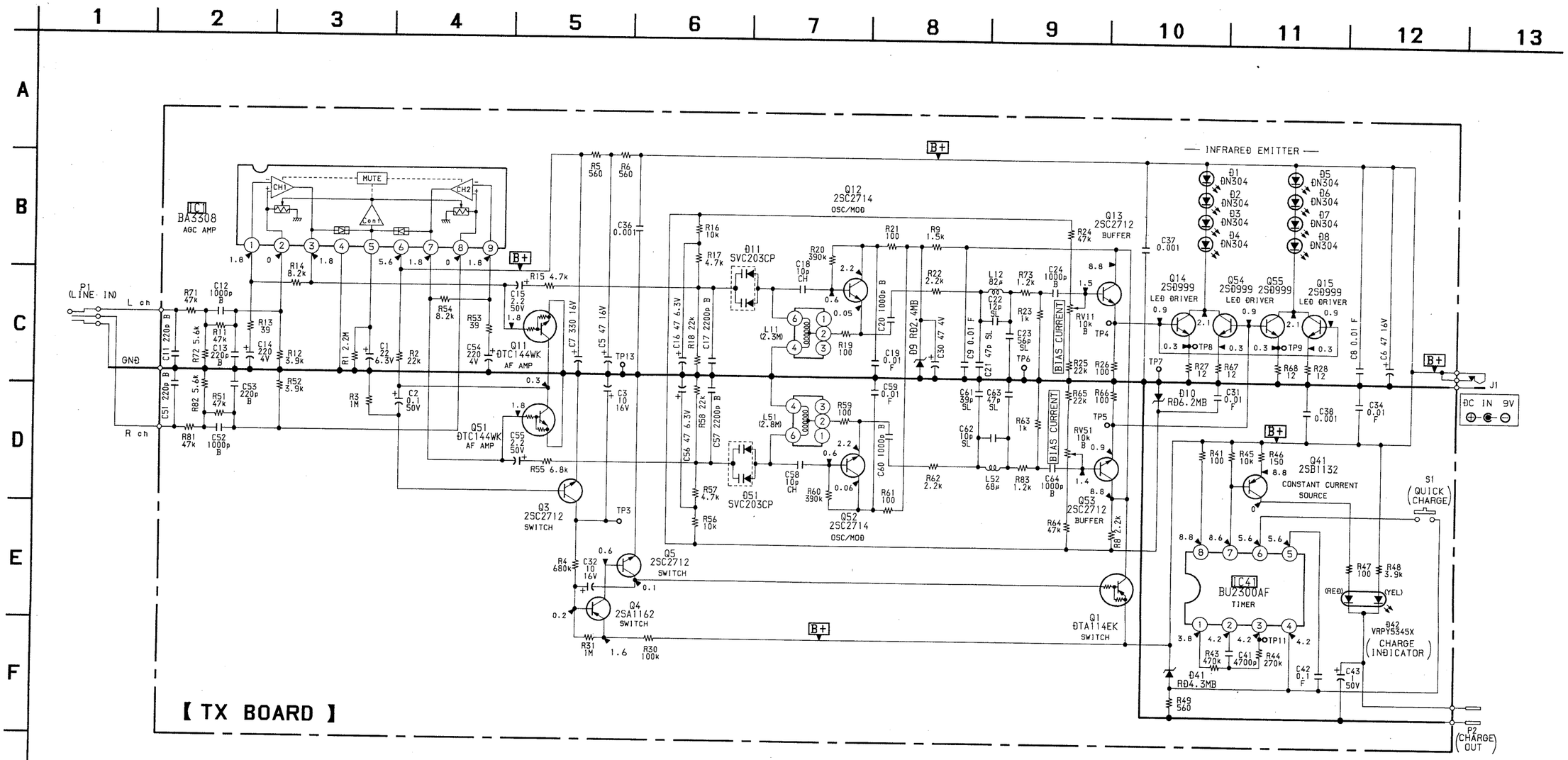
● **Semiconductor Location**

Ref. No.	Location
D1	A-2
D2	A-4
D3	A-5
D4	B-7
D5	B-8
D6	B-9
D7	C-11
D8	C-12
D9	C-6
D10	E-6
D11	B-5
D41	D-9
D42	C-12
D51	F-6
IC1	C-3
IC41	D-10
Q1	D-5
Q3	C-4
Q4	D-5
Q5	D-5
Q11	C-4
Q12	B-7
Q13	D-7
Q14	D-8
Q15	D-9
Q41	C-10
Q51	D-4
Q52	F-7
Q53	D-7
Q54	E-8
Q55	E-9

FORMER TYPE

FORMER TYPE

4-6. FORMER TYPE TRANSMITTER SECTION (TMR-IF5) SCHEMATIC DIAGRAM



Destination	Former Type Serial No.
US	Up to 47096
Canadian	Up to A50400
AEP	Up to 46296
E	Up to 23000

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- Power voltage is 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.

FORMER TYPE

Note:

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- Solder the yellow lead to the red marked terminal on each SP11 and SP51.

【FE BOARD】(COMPONENT SIDE)

【FE BOARD】(CONDUCTOR SIDE)

D1 : INFRARED SENSOR
D6 : POWER INDICATOR

【RX(R) BOARD】

【RX(L) BOARD】

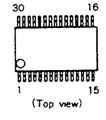
Destination	Former Type Serial No.
US	Up to 47096
Canadian	Up to A50400
AEP	Up to 46296
E	Up to 23000

- **Semiconductor Location**

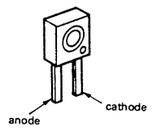
Ref. No.	Location
D1	B-7
D2	F-9
D3	F-6
D4	B-8
D5	A-8
D6	B-7
D7	B-6
D8	B-7
D11	F-12
D51	F-4
IC11	F-11
IC51	F-3
Q1	B-8
Q2	B-6
Q11	F-10
Q12	E-10
Q13	G-10
Q51	F-1
Q52	E-2
Q53	G-1

- **Semiconductor Lead Layouts**

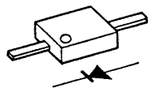
CXA1280N



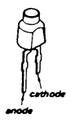
PP506-1

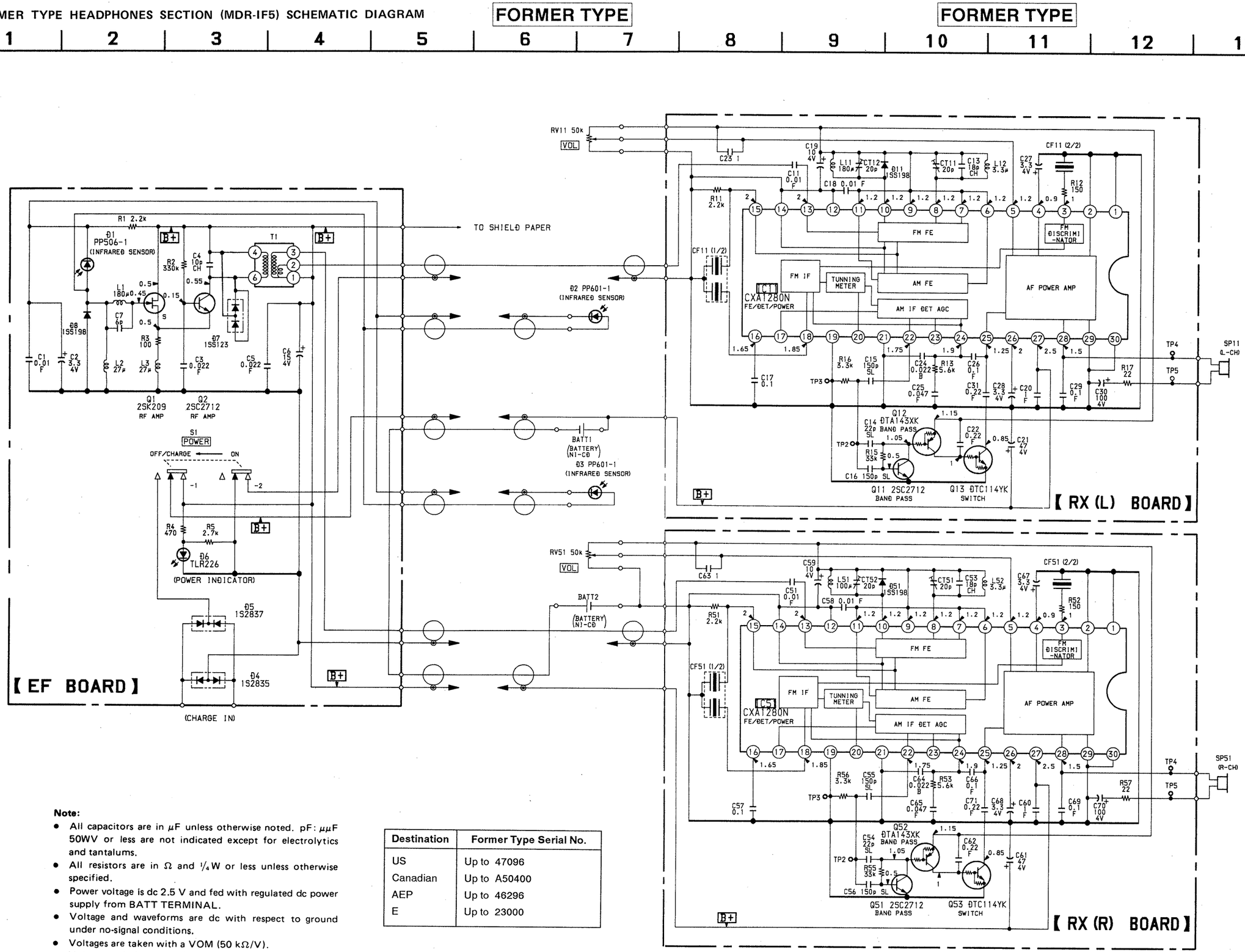


PP601-1



TLR226





Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- Power voltage is dc 2.5 V and fed with regulated dc power supply from BATT TERMINAL.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (50 kΩ/V). Voltage variations may be noted due to normal production tolerances.

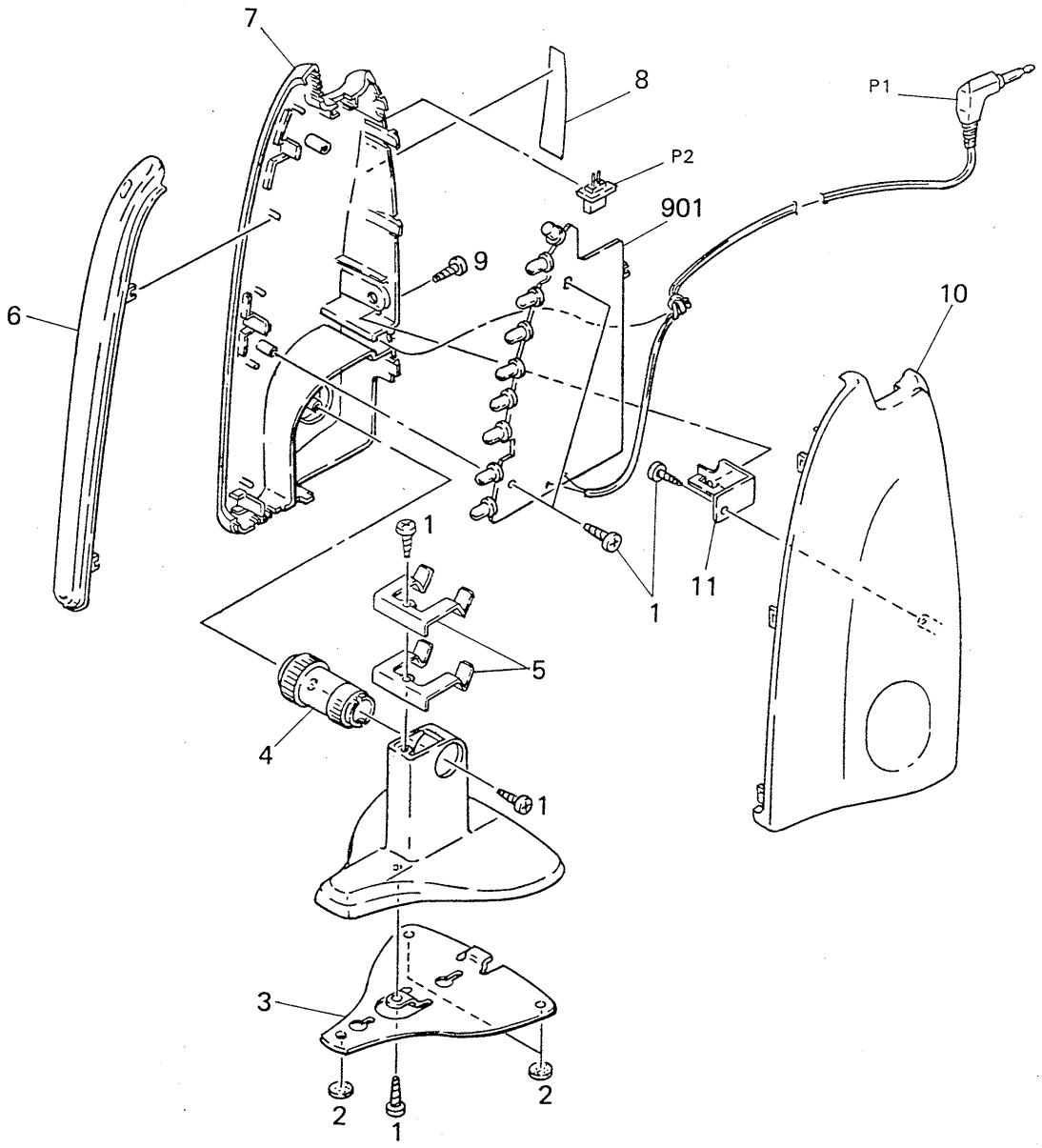
Destination	Former Type Serial No.
US	Up to 47096
Canadian	Up to A50400
AEP	Up to 46296
E	Up to 23000

SECTION 5
EXPLODED VIEWS

NOTE:

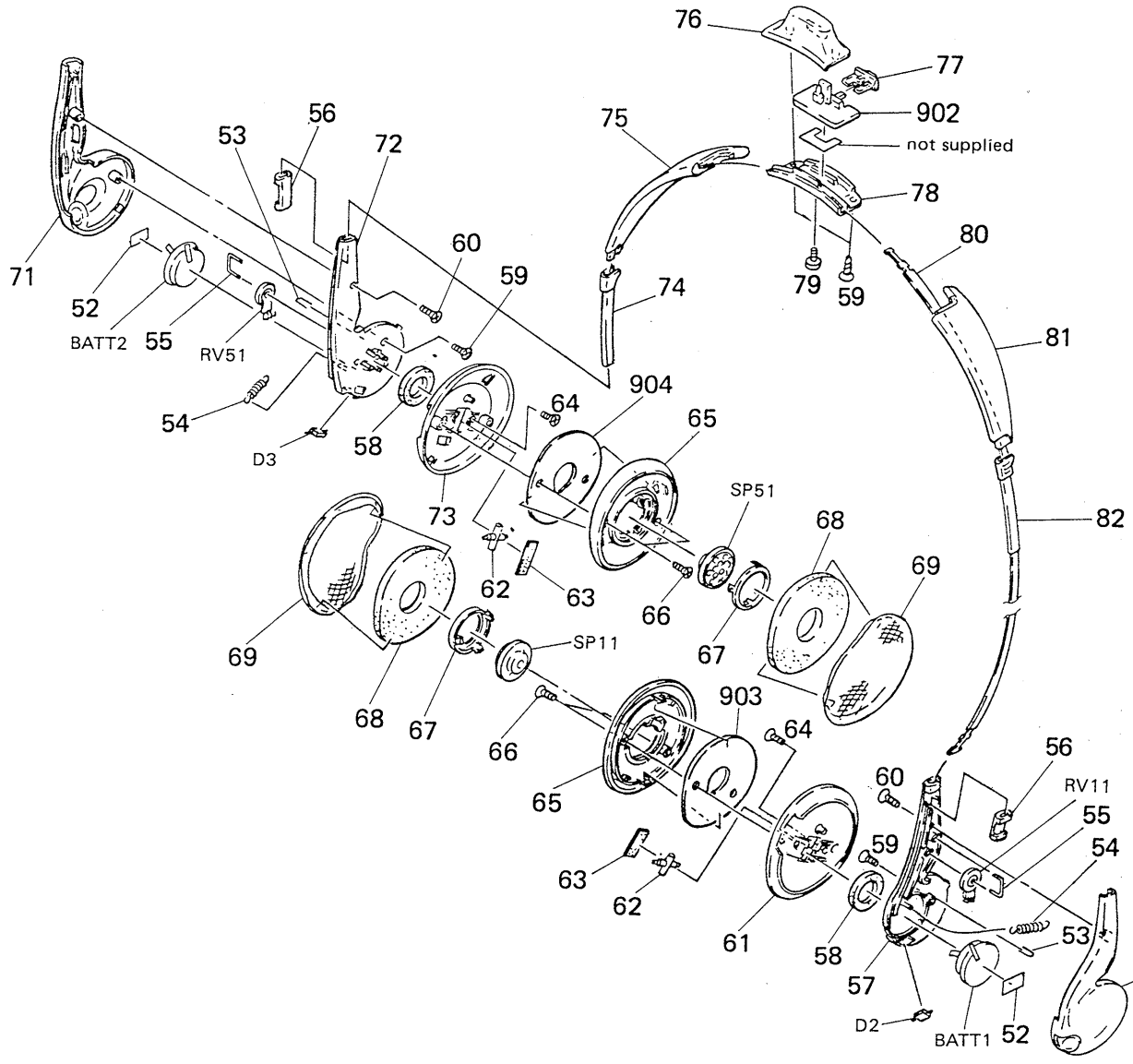
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts' Color

(1) TRANSMITTER (TMR-IF5)



No.	Part No.	Description	Remarks
1	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
2	3-319-288-01	FOOT	
3	2-136-207-01	STAND	
4	2-136-203-01	SHAFT, STAND	
5	2-136-202-01	SPRING	
6	2-136-204-01	WINDOW	
7	2-136-205-01	CABINET (LEFT)	
8	*2-136-239-01	LABEL, MODEL NUMBER	
9	7-621-255-40	SCREW +P 2X6	
10	2-136-206-01	CABINET (RIGHT)	
11	2-136-242-01	BRACKET, CABINET	
901	*A-4534-045-A	MOUNTED PCB, TX	
P1	1-574-552-11	CORD (WITH PLUG)	
P2	1-568-286-11	PIN, CONNECTOR	

(2) HEADPHONES (MDR-IF5)



No.	Part No.	Description	Remarks
51	X-2136-201-1	COVER (LEFT) ASSY, SLIDER	
52	*3-563-500-01	SHEET (S), ADHESIVE	
53	2-136-241-01	CLIP, CORD	
54	2-136-245-01	SPRING, TENSION	
55	2-136-211-01	PIN, VR FITTING	
56	2-136-218-01	SPRING	
57	2-136-229-01	SLIDER (LEFT)	
58	2-136-240-01	CUSHION, HOUSING	
59	3-703-272-11	SCREW (1.7X4), TAPPING	
60	3-893-957-11	SCREW (B 2X6), P TAPPING	
61	2-136-223-01	COVER (LEFT), HOUSING	
62	2-136-209-01	JOINTER, CROSS	
63	3-815-381-01	CUSHION, ADJUSTMENT	
64	3-880-990-00	SCREW (1.7X3),FLAT,(+) SPECIAL	
65	2-136-219-01	HOUSING	
66	7-685-204-19	SCREW +KTP 2X6 TYPE2 NON-SLIT	
67	2-136-213-01	HOLDER, DRIVER	
68	2-136-210-01	CUSHION, URETHANE	
69	2-136-208-01	PAD, EAR	
71	X-2136-202-1	COVER (RIGHT) ASSY, SLIDER	
72	2-136-228-01	SLIDER (RIGHT)	

No.	Part No.	Description	Remarks
73	2-136-220-01	COVER (RIGHT), HOUSING	
74	2-136-224-01	GUIDE (RIGHT), CORD	
75	2-136-221-01	CUSHION (RIGHT), HEAD	
76	2-136-214-01	COVER (UPPER), RAY CATCHER	
77	2-136-212-01	KNOB, SLIDE	
78	2-136-215-01	COVER (LOWER), RAY CATCHER	
79	7-627-451-28	SCREW,PRECISION +K 1.4X3	
80	*2-136-217-01	BAND, HEAD	
81	2-136-222-01	CUSHION (LEFT), HEAD	
82	2-136-225-01	GUIDE (LEFT), CORD	
902	*A-4538-045-A	MOUNTED PCB, FE	
903	*A-4538-046-A	MOUNTED PCB (LEFT), RX	
904	*A-4538-047-A	MOUNTED PCB (RIGHT), RX	
BATT1	1-528-287-11	BATTERY, NI-CD (GF100)	
BATT2	1-528-287-11	BATTERY, NI-CD (GF100)	
D2	8-719-975-20	PHOTO DIODE PP601-1	
D3	8-719-975-20	PHOTO DIODE PP601-1	
RV11	1-238-495-11	RES, VAR, CARBON 50K (VOLUME)(WITH KNOB)	
RV51	1-238-495-11	RES, VAR, CARBON 50K (VOLUME)(WITH KNOB)	
SP11	1-505-089-11	DRIVER (023F015)	
SP51	1-505-089-11	DRIVER (023F015)	

SECTION 6
ELECTRICAL PARTS LIST

TMR-IF5

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

[TRANSMITTER TMR-IF5]

Ref.No.	Part No.	Description			
901	*A-4534-045-A	MOUNTED PCB, TX			
C1	1-124-778-00	ELECT	22MF	20%	6.3V
C2	1-126-187-11	ELECT	0.1MF	20%	50V
C3	1-124-779-00	(FORMER)...ELECT	10MF	20%	16V
C3	1-126-119-11	(NEW).....ELECT	6.8MF	20%	35V
C5	1-126-204-11	ELECT	47MF	20%	16V
C6	1-126-204-11	ELECT	47MF	20%	16V
C7	1-124-119-00	ELECT	330MF	20%	16V
C8	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C9	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C11	1-163-189-00	CERAMIC CHIP	220PF	10%	50V
C12	1-163-205-00	(FORMER)...CERAMIC CHIP	0.001MF	10%	50V
C12	1-163-209-00	(NEW).....CERAMIC CHIP	0.0015MF	10%	50V
C13	1-163-189-00	CERAMIC CHIP	220PF	10%	50V
C14	1-126-246-11	ELECT	220MF	20%	4V
C15	1-126-195-11	ELECT	2.2MF	20%	50V
C16	1-126-205-11	ELECT	47MF	20%	6.3V
C17	1-163-213-00	CERAMIC CHIP	0.0022MF	10%	50V
C18	1-163-157-00	CERAMIC CHIP	10PF	5%	50V
C19	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C20	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C21	1-163-173-00	CERAMIC CHIP	47PF	5%	50V
C22	1-163-159-00	CERAMIC CHIP	12PF	5%	50V
C23	1-163-175-00	CERAMIC CHIP	56PF	5%	50V
C24	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C30	1-126-208-11	ELECT	47MF	20%	4V
C31	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C32	1-124-779-00	ELECT	10MF	20%	16V
C34	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C36	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C37	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C38	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C39	1-126-204-11	(NEW)...ELECT	47MF	20%	16V
C40	1-124-779-00	(NEW)...ELECT	10MF	20%	16V
C41	1-163-055-00	CERAMIC CHIP	0.0047MF	10%	50V
C42	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C43	1-126-193-11	ELECT	1MF	20%	50V
C44	1-102-074-00	(NEW)...CERAMIC	0.001MF	10%	50V
C51	1-163-189-00	CERAMIC CHIP	220PF	10%	50V
C52	1-163-205-00	(FORMER)...CERAMIC CHIP	0.001MF	10%	50V
C52	1-163-209-00	(NEW).....CERAMIC CHIP	0.0015MF	10%	50V
C53	1-163-189-00	CERAMIC CHIP	220PF	10%	50V
C54	1-126-246-11	ELECT	220MF	20%	4V
C55	1-126-195-11	ELECT	2.2MF	20%	50V
C56	1-126-205-11	ELECT	47MF	20%	6.3V
C57	1-163-213-00	CERAMIC CHIP	0.0022MF	10%	50V
C58	1-163-157-00	CERAMIC CHIP	10PF	5%	50V
C59	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C60	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C61	1-163-171-00	CERAMIC CHIP	39PF	5%	50V
C62	1-163-157-00	CERAMIC CHIP	10PF	5%	50V
C63	1-163-173-00	CERAMIC CHIP	47PF	5%	50V
C64	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
D1	8-719-975-21	DIODE DN304A			
D2	8-719-975-21	DIODE DN304A			
D3	8-719-975-21	DIODE DN304A			
D4	8-719-975-21	DIODE DN304A			
D5	8-719-975-21	DIODE DN304A			
D6	8-719-975-21	DIODE DN304A			
D7	8-719-975-21	DIODE DN304A			
D8	8-719-975-21	DIODE DN304A			
D9	8-719-105-28	DIODE RD2.4M-B			
D10	8-719-106-08	DIODE RD6.2M-B2			
D11	8-719-939-02	DIODE SVC203CP			
D41	8-719-105-64	DIODE RD4.3M-B2			
D42	8-719-975-26	DIODE VRPY5345X			
D51	8-719-939-02	DIODE SVC203CP			
IC1	8-759-939-73	IC BA3308			
IC41	8-759-937-65	IC BU2300AF			
J1	1-507-563-00	JACK, DC (DC IN 9V)			
JR1	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR2	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR3	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR4	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR5	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR6	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR7	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR8	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR9	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR10	1-216-296-00	METAL GLAZE	0	5%	1/8W
L11	1-406-333-11	COIL (OSC)			
L12	1-408-788-21	INDUCTOR CHIP	82UH		
L51	1-406-334-11	COIL (OSC)			
L52	1-408-787-00	INDUCTOR CHIP	68UH		
P1	1-574-552-11	CORD (WITH PLUG)			
P2	1-568-286-11	PIN, CONNECTOR			
Q1	8-729-901-04	TRANSISTOR DTA114EK			
Q3	8-729-271-22	TRANSISTOR 2SC2712G			
Q4	8-729-216-21	TRANSISTOR 2SA1162Y			

TMR-IF5

Ref.No.	Part No.	Description
Q5	8-729-271-22	TRANSISTOR 2SC2712G
Q11	8-729-901-03	TRANSISTOR DTC144WK
Q12	8-729-200-87	TRANSISTOR 2SC2714Y
Q13	8-729-271-22	TRANSISTOR 2SC2712G
Q14	8-729-199-92	TRANSISTOR 2SD999
Q15	8-729-199-92	TRANSISTOR 2SD999
Q41	8-729-903-47	TRANSISTOR 2SB1132
Q51	8-729-901-03	TRANSISTOR DTC144WK
Q52	8-729-200-87	TRANSISTOR 2SC2714Y
Q53	8-729-271-22	TRANSISTOR 2SC2712G
Q54	8-729-199-92	TRANSISTOR 2SD999
Q55	8-729-199-92	TRANSISTOR 2SD999
R1	1-216-278-00	METAL GLAZE 2.2M 5% 1/8W
R2	1-216-230-00	METAL GLAZE 22K 5% 1/8W
R3	1-216-270-00	METAL GLAZE 1M 5% 1/8W
R4	1-216-266-00	METAL GLAZE 680K 5% 1/8W
R5	1-216-192-00	METAL GLAZE 560 5% 1/8W
R6	1-216-192-00	METAL GLAZE 560 5% 1/8W
R8	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W
R9	1-216-202-00	METAL GLAZE 1.5K 5% 1/8W
R11	1-216-238-00	METAL GLAZE 47K 5% 1/8W
R12	1-216-212-00	METAL GLAZE 3.9K 5% 1/8W
R13	1-216-164-00	METAL GLAZE 39 5% 1/8W
R14	1-216-220-00	METAL GLAZE 8.2K 5% 1/8W
R15	1-216-214-00	(FORMER)...METAL GLAZE 4.7K 5% 1/8W
R15	1-216-220-00	(NEW).....METAL GLAZE 8.2K 5% 1/8W
R16	1-216-222-00	METAL GLAZE 10K 5% 1/8W
R17	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W
R18	1-216-230-00	METAL GLAZE 22K 5% 1/8W
R19	1-216-174-00	METAL GLAZE 100 5% 1/8W
R20	1-216-260-00	METAL GLAZE 390K 5% 1/8W
R21	1-216-174-00	METAL GLAZE 100 5% 1/8W
R22	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W
R23	1-216-198-00	METAL GLAZE 1K 5% 1/8W
R24	1-216-238-00	METAL GLAZE 47K 5% 1/8W
R25	1-216-230-00	METAL GLAZE 22K 5% 1/8W
R26	1-216-174-00	METAL GLAZE 100 5% 1/8W
R27	1-216-152-00	METAL GLAZE 12 5% 1/8W
R28	1-216-152-00	METAL GLAZE 12 5% 1/8W
R30	1-216-246-00	METAL GLAZE 100K 5% 1/8W
R31	1-216-270-00	METAL GLAZE 1M 5% 1/8W
R32	1-216-168-00	(NEW)...METAL GLAZE 56 5% 1/8W
R33	1-216-246-00	(NEW)...METAL GLAZE 100K 5% 1/8W
R41	1-216-174-00	METAL GLAZE 100 5% 1/8W

Ref.No.	Part No.	Description
R43	1-216-262-00	METAL GLAZE 470K 5% 1/8W
R44	1-216-256-00	METAL GLAZE 270K 5% 1/8W
R45	1-216-222-00	METAL GLAZE 10K 5% 1/8W
R46	1-216-178-00	METAL GLAZE 150 5% 1/8W
R47	1-216-174-00	METAL GLAZE 100 5% 1/8W
R48	1-216-212-00	METAL GLAZE 3.9K 5% 1/8W
R49	1-216-192-00	METAL GLAZE 560 5% 1/8W
R51	1-216-238-00	METAL GLAZE 47K 5% 1/8W
R52	1-216-212-00	METAL GLAZE 3.9K 5% 1/8W
R53	1-216-164-00	METAL GLAZE 39 5% 1/8W
R54	1-216-220-00	METAL GLAZE 8.2K 5% 1/8W
R55	1-216-218-00	(FORMER)...METAL GLAZE 6.8K 5% 1/8W
R55	1-216-224-00	(NEW).....METAL GLAZE 12K 5% 1/8W
R56	1-216-222-00	METAL GLAZE 10K 5% 1/8W
R57	1-216-214-00	METAL GLAZE 4.7K 5% 1/8W
R58	1-216-230-00	METAL GLAZE 22K 5% 1/8W
R59	1-216-174-00	METAL GLAZE 100 5% 1/8W
R60	1-216-260-00	METAL GLAZE 390K 5% 1/8W
R61	1-216-174-00	METAL GLAZE 100 5% 1/8W
R62	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W
R63	1-216-198-00	METAL GLAZE 1K 5% 1/8W
R64	1-216-238-00	METAL GLAZE 47K 5% 1/8W
R65	1-216-230-00	METAL GLAZE 22K 5% 1/8W
R66	1-216-174-00	METAL GLAZE 100 5% 1/8W
R67	1-216-152-00	METAL GLAZE 12 5% 1/8W
R68	1-216-152-00	METAL GLAZE 12 5% 1/8W
R71	1-216-238-00	METAL GLAZE 47K 5% 1/8W
R72	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W
R73	1-216-200-00	METAL GLAZE 1.2K 5% 1/8W
R81	1-216-238-00	METAL GLAZE 47K 5% 1/8W
R82	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W
R83	1-216-200-00	METAL GLAZE 1.2K 5% 1/8W
RV11	1-230-870-11	RES, ADJ, METAL GLAZE 10K
RV51	1-230-870-11	RES, ADJ, METAL GLAZE 10K
S1	1-553-976-00	SWITCH, PUSH

[HEADPHONES MDR-IF5]

Ref.No.	Part No.	Description		
902	*A-4538-045-A	MOUNTED PCB, FE		
903	*A-4538-046-A	MOUNTED PCB (LEFT), RX		
904	*A-4538-047-A	MOUNTED PCB (RIGHT), RX		
BATT1	1-528-287-11	BATTERY, NI-CD		
BATT2	1-528-287-11	BATTERY, NI-CD		
C1	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C2	1-135-180-21	TANTAL. CHIP 3.3MF	20%	4V
C3	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C4	1-163-093-00	CERAMIC CHIP 10PF	5%	50V
C5	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C6	1-135-158-21	TANTAL. CHIP 15MF	10%	4V
C7	1-163-089-00	CERAMIC CHIP 6PF	0.5PF	50V
C10	1-163-118-00	(NEW)...CERAMIC CHIP 110PF	5%	50V
C11	1-163-021-00	(FORMER)...CERAMIC CHIP 0.01MF		50V
C11	1-163-110-00	(NEW).....CERAMIC CHIP 51PF	5%	50V
C12	1-163-101-00	(NEW).....CERAMIC CHIP 22PF	5%	50V
C13	1-163-472-11	CERAMIC CHIP 18PF	5%	50V
C14	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C15	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C16	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C17	1-163-038-00	(NEW).....CERAMIC CHIP 0.1MF		50V
C17	1-163-077-00	(FORMER)...CERAMIC CHIP 0.1MF		50V
C18	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C19	1-135-157-21	TANTAL. CHIP 10MF	20%	4V
C20	1-164-234-11	CERAMIC CHIP 1MF		10V
C21	1-124-432-00	ELECT 47MF	20%	4V
C22	1-164-222-11	(FORMER)...CERAMIC CHIP 0.22MF		25V
C22	1-164-234-11	(NEW).....CERAMIC CHIP 1MF		10V
C23	1-164-222-11	(NEW).....CERAMIC CHIP 0.22MF		25V
C23	1-164-234-11	(FORMER)...CERAMIC CHIP 1MF		10V
C24	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C25	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C26	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C27	1-135-180-21	TANTAL. CHIP 3.3MF	20%	4V
C28	1-135-180-21	TANTAL. CHIP 3.3MF	20%	4V
C29	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C30	1-124-433-00	ELECT 100MF	20%	4V
C31	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C32	1-135-151-21	(NEW)...TANTAL. CHIP 4.7MF	20%	4V
C50	1-163-122-00	(NEW)...CERAMIC CHIP 160PF		
C51	1-163-021-00	CERAMIC CHIP 0.01MF		50V
C52	1-163-104-00	(NEW)...CERAMIC CHIP 30PF		50V
C53	1-163-472-11	CERAMIC CHIP 18PF	5%	50V
C54	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C55	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C56	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C57	1-163-038-00	(NEW).....CERAMIC CHIP 0.1MF		50V
C57	1-163-077-00	(FORMER)...CERAMIC CHIP 0.1MF		50V
C58	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C59	1-135-157-21	TANTAL. CHIP 10MF	20%	4V
C60	1-164-234-11	CERAMIC CHIP 1MF		10V
C61	1-124-432-00	ELECT 47MF	20%	4V
C62	1-164-222-11	(FORMER)...CERAMIC CHIP 0.22MF		25V
C62	1-164-234-11	(NEW).....CERAMIC CHIP 1MF		
C63	1-164-222-11	(NEW).....CERAMIC CHIP 0.22MF		25V
C63	1-164-234-11	(FORMER)...CERAMIC CHIP 1MF		10V
C64	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C65	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C66	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C67	1-135-180-21	TANTAL. CHIP 3.3MF	20%	4V
C68	1-135-180-21	TANTAL. CHIP 3.3MF	20%	4V
C69	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C70	1-124-433-00	ELECT 100MF	20%	4V
C71	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C72	1-135-151-21	(NEW)...TANTAL. CHIP 4.7MF	20%	4V
CF11	1-577-589-81	FILTER, CERAMIC		
CF51	1-577-589-81	FILTER, CERAMIC		
CT11	1-141-313-11	(NEW).....CAP, VAR TRIMMER(CHIP TYPE)10P		
CT11	1-141-322-11	(FORMER)..CAP, VAR TRIMMER(CHIP TYPE)20P		
CT12	1-141-322-11	CAP, VAR TRIMMER (CHIP TYPE) 20P		
CT51	1-141-313-11	(NEW).....CAP, VAR TRIMMER(CHIP TYPE)10P		
CT51	1-141-322-11	(FORMER)..CAP, VAR TRIMMER(CHIP TYPE)20P		
CT52	1-141-322-11	CAP, VAR TRIMMER (CHIP TYPE) 20P		
D1	8-719-975-19	PHOTO DIODE PP506-1		
D2	8-719-975-20	PHOTO DIODE PP601-1		
D3	8-719-975-20	PHOTO DIODE PP601-1		
D4	8-719-100-03	DIODE 1S2835		
D5	8-719-100-05	DIODE 1S2837		
D6	8-719-812-26	DIODE TLR226		
D7	8-719-918-88	DIODE 1SS198		
D8	8-719-918-88	DIODE 1SS198		
D11	8-719-918-88	DIODE 1SS198		
D51	8-719-918-88	DIODE 1SS198		
IC11	8-759-605-59	IC CXA1280N		
IC51	8-759-605-59	IC CXA1280N		

MDR-IF5

REVISED

Ref.No.	Part No.	Description
JR1	1-216-295-00	METAL GLAZE 0 5% 1/10W
JR11	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR12	1-216-296-00	(NEW)...METAL GLAZE 0 5% 1/8W
JR13	1-216-295-00	(NEW)...METAL GLAZE 0 5% 1/10W
JR51	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR53	1-216-295-00	(NEW)...METAL GLAZE 0 5% 1/10W
L1	1-410-657-21	INDUCTOR CHIP 180UH
L2	1-410-386-11	INDUCTOR CHIP 27UH
L3	1-410-209-51	INDUCTOR CHIP 27UH
L11	1-410-657-21	INDUCTOR CHIP 180UH
L12	1-410-375-11	INDUCTOR CHIP 3.3UH
L13	1-406-334-11	(NEW)....COIL (OSC)
L31	1-410-657-21	(NEW)....INDUCTOR CHIP 180UH
L51	1-410-393-11	INDUCTOR CHIP 100UH
L52	1-410-375-11	INDUCTOR CHIP 3.3UH
L53	1-406-334-11	(NEW)....COIL (OSC)
L54	1-410-391-11	(NEW)....INDUCTOR CHIP 68UH
L71	1-410-657-21	(NEW)....INDUCTOR CHIP 180UH
Q1	8-729-220-93	TRANSISTOR 2SK209G
Q2	8-729-271-22	TRANSISTOR 2SC2712G
Q11	8-729-271-22	TRANSISTOR 2SC2712G
Q12	8-729-906-45	TRANSISTOR DTA143XK
Q13	8-729-900-52	TRANSISTOR DTC114YK
Q51	8-729-271-22	TRANSISTOR 2SC2712G
Q52	8-729-906-45	TRANSISTOR DTA143XK
Q53	8-729-900-52	TRANSISTOR DTC114YK
R1	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R2	1-216-109-00	METAL GLAZE 330K 5% 1/10W
R3	1-216-025-00	METAL GLAZE 100 5% 1/10W
R4	1-216-041-00	METAL GLAZE 470 5% 1/10W
R5	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R6	1-216-073-00	(FORMER)...METAL GLAZE 10K 5% 1/10W
R11	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R12	1-216-029-00	METAL GLAZE 150 5% 1/10W
R13	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W
R15	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R16	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R17	1-216-009-00	METAL GLAZE 22 5% 1/10W
R51	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R52	1-216-029-00	METAL GLAZE 150 5% 1/10W
R53	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W
R55	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R56	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R57	1-216-009-00	METAL GLAZE 22 5% 1/10W

Ref.No.	Part No.	Description
RV11	1-238-495-11	RES, VAR, CARBON 50K (VOLUME)
RV51	1-238-495-11	RES, VAR, CARBON 50K (VOLUME)
SP11	1-505-089-11	DRIVER (023F015)
SP51	1-505-089-11	DRIVER (023F015)
S1	1-571-277-31	SWITCH, SLIDE (CHARGE)
T1	1-426-414-21	COIL (RF)

ACCESSORY & PACKING MATERIAL

⚠	1-463-700-11	(UK).....ADAPTOR, AC
⚠	1-463-701-11	(Australian)...ADAPTOR, AC
⚠	1-465-154-11	(US).....ADAPTOR, AC
⚠	1-465-210-11	(AEP).....ADAPTOR, AC
⚠	1-465-211-11	(Canadian).....ADAPTOR, AC
⚠	1-465-258-11	(E).....ADAPTOR, AC
⚠	1-526-565-11	(E).....ADAPTOR, AC PLUG
	1-566-410-21	ADAPTOR, PLUG
	1-566-494-31	ADAPTOR, PLUG
*	2-136-230-01	CUSHION
*	2-136-231-01	INDIVIDUAL CARTON
	3-750-225-11	(Canadian,AEP,E,Australian) ...MANUAL, INSTRUCTION
	3-750-225-21	(US).....MANUAL, INSTRUCTION
	3-750-225-41	(AEP).....MANUAL, INSTRUCTION
	3-750-225-51	(UK).....MANUAL, INSTRUCTION
	7-621-843-55	SCREW, WOOD +R 3.1X20

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

9-953-691-13
(Including 9-953-691-91)

Sony Corporation
Audio Group

English
89K0574-1
Printed in Japan
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Published by Customer Relations and Service Group